



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,279	11/14/2003	Kevin B. Weiss	15866/141	2037
23595	7590	07/28/2005	EXAMINER	
NIKOLAI & MERSEREAU, P.A. 900 SECOND AVENUE SOUTH SUITE 820 MINNEAPOLIS, MN 55402			WILLIAMS, THOMAS J	
			ART UNIT	PAPER NUMBER
			3683	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/714,279

Applicant(s)

WEISS, KEVIN B.

Examiner

Thomas J. Williams

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 6,7,9-11,18 and 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,8,12-17,19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/13/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Acknowledgment is made in the receipt of the amendment filed May 23, 2005 and the information disclosure statement filed April 13, 2005.

#### ***Specification***

2. The disclosure is objected to because of the following informalities: page 6 lines 6-9 states that the friction collar is driven by both the wave spring and fluid pressure in chamber 63, however as understood by the examiner the fluid pressure in chamber 63 releases the friction collar. Clarification is requested.

Appropriate correction is required.

#### ***Claim Objections***

3. Claim 1 is objected to because of the following informalities: lines 9-10 recite an end cap slidably mounted inside the housing to allow motion of the end cap in the axial direction, however, this does not appear to be the actual situation. As best understood by the examiner the end cap is prevented from axial motion by the backlash reducer. Furthermore, the end cap illustrated in figure 5 cannot move in the axial direction (once assembled) since it is threaded to the housing. It appears the end cap is moved in the axial direction during assembly. In which case the claims appear to incorporate a product-by-process. Appropriate correction is required.

4. Claim 15 is objected to because of the following informalities: the second fluid port appears to both exhaust and intake fluid when the rod controller moves to the engaged position. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 8, 12-17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,178,870 to Takahashi.

Re-claim 1, Takahashi discloses a motion control apparatus for use with a rod, comprising: a housing 3; a piston 28 is mounted in the housing; an end cap 22 is mounted to the housing using bolts 53, this will prevent movement of the end cap; a friction collar 24 is mounted between the end cap and the housing, an engaging force is generated during movement of the piston (in response to a dump of pressure, this is consistent with the instant invention), the piston is movable to a release position allowing axial movement of the rod; the rigid connection of the end cap with the housing using bolts 53 will prevent any backlash.

This position is supported by the art cited below, in particular Stratienko. In which backlash is prevented by securely connecting various elements using bolts.

Re-claim 2, the recess portion of housing 3 that receives the end cap is interpreted as a holder mounted on the inside of the housing.

Re-claims 8 and 12, the friction collar has a plurality of tracks to support a plurality of balls.

Re-claim 13, portion 30 is interpreted as part or an extension of piston 28, and is thus provided with a surface having a cone shape.

Art Unit: 3683

Re-claims 14-16, see figure 1.

Re-claims 17 and 19, Takahashi discloses a method comprising: providing a housing 3 with an internal passage to accommodate a rod 6; mounting a friction collar 24 in the housing, the friction collar will selectively engage the rod; mounting an end cap 22 into the housing after mounting the friction collar; applying a force (during tightening of the bolts), the end cap is held in place relative to the friction collar and the housing, due to bolts 53; the step portion on the internal surface of the housing is interpreted as a holder, since it will hold the end cap in place.

7. Claims 1-3, 8, 12-17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by US 4,577,732 to Gottling.

Re-claim 1, Gottling discloses a motion control apparatus for use with a rod, comprising: a housing 12; a piston 50 is mounted in the housing; an end cap 72 is mounted to the housing; a friction collar 18 is mounted between the end cap and the housing, an engaging force is generated during movement of the piston, the piston is movable to a release position allowing axial movement of the rod; the end cap is secured against movement (see column 3 lines 63-68) and thus reduces backlash.

Re-claim 2, the groove holding the end cap in place is interpreted as a holder mounted in the housing, the groove receives retaining ring 76 to hold the end cap in place. This is consistent with figure 1 in the instant invention.

Re-claim 3, an internal retaining ring 76 is mounted on the inside surface of the housing, the end cap has a first end in contact with the friction collar (via the spring/piston/ball element) and a second end held by the retaining ring in a backlash reducing position by reducing relative motion in the axial direction. The recitation "in contact with" does not preclude the presence of

Art Unit: 3683

additional elements between the two elements in question, see *193 USPQ 81 Butler et al. v. Helms, doing business as Jack A. Helms Company*.

Re-claims 8 and 12, the friction collar has a plurality of tracks to support a plurality of balls.

Re-claim 13, portion 30 is interpreted as part or an extension of piston 28, and is thus provided with a surface having a cone shape.

Re-claims 14-16, see figure 1, column 4 lines 24-28 and column 5 lines 3-16.

Re-claims 17 and 19, Takahashi discloses a method comprising: providing a housing 3 with an internal passage to accommodate a rod 6; mounting a friction collar 24 in the housing, the friction collar will selectively engage the rod; mounting an end cap 22 into the housing after mounting the friction collar; applying a force (during tightening of the bolts), the end cap is held in place relative to the friction collar and the housing, due to bolts 53; the step portion on the internal surface of the housing is interpreted as a holder, since it will hold the end cap in place.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 5 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gottling in view of either US 4,910,846 to Andreasson et al.

Re-claims 4 and 20, Gottling fails to teach the use of shims for taking up any additional space play in the groove after inserting the retaining ring. Both Andreasson et al. (column 3

Art Unit: 3683

lines 21-29) teach the use of shims for reducing play or movement in an assembly. It would have been obvious to one of ordinary skill in the art to have provided the assembly of Gottling with any necessary shims in the groove as taught by Andreasson et al., thus compensating for machining tolerances and reducing unwanted play in the system.

Re-claim 5, the friction collar has a plurality of tracks to support a plurality of balls.

### ***Response to Arguments***

10. Applicant's arguments filed May 23, 2005 have been fully considered but they are not persuasive. The arguments regarding the difficulties imposed by manufacturing each element in Takahashi within specific tolerances are not sufficient to overcome the rejection. It is the opinion of the examiner that achieving the machining tolerances necessary for eliminating backlash are possible. As such the claim language fails to define over the art of record.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stratienko teaches a locking device with reduced backlash through the use of bolts.

12. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Thomas Williams whose telephone number is 571-272-7128. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, can be reached at 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3683

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-6584.

TJW

July 22, 2005

THOMAS WILLIAMS  
PATENT EXAMINER

Thomas William

AU 3683

7-22-05